

# The Dark Sides of Modern Science: Knowledge Production and Authoring

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**Abstract:** Despite its flashy image and good reputation among the general public as well as among the majority of scholars and intellectuals, science - like any other field of human activity - suffers from serious shortcomings and defects related to moral, ethical, professional and legal aspects and perspectives, where the generally approved standards, rules and values are - deliberately or non-deliberately, with or without good intention - infringed and violated by the individuals and institutions who produce, curate and promote science (i.e. academics, researchers, universities, scholarly journals, funding bodies, and so on). In this series of “The Dark Sides of Modern Science” we try to shed light on some of these negative aspects and downsides of modern science where we provide curated lists of references, in the form of scholarly journal articles and online sources, related to the topics of this subject. This compilation aims to raise awareness of this important issue among the general public as well as among scholars and specialists. Additionally, the series serves as a valuable starting point for researchers and writers who wish to explore the topics of this subject further and in greater detail. In this paper (which is the first in this series) we investigate the dark sides of knowledge production and authoring. Our intention is to investigate in the following papers of this series other dark sides of modern science related, for instance, to publishing, credit attribution and morality.

**Keywords:** Ethics of science, ethics of knowledge, morality in science, academic misconduct, corruption in science, knowledge production, authoring.

# Contents

Abstract	1
Table of Contents	2
1 Introduction	3
2 Paper Mills	5
3 Contract Cheating and Essay Mills	10
4 Role of Artificial Intelligence in Knowledge Production	15
5 Questionable Authorship Practices	20
6 Self-Plagiarism and Text Recycling	28
7 Plagiarism	31
8 Salami Slicing	38
9 Collaboration and Collusion	41
10 Questionable Affiliation Practices	43
11 Manipulation of Knowledge	45
12 Authorship and Credit Disputes	52
13 Questionable Research Practices	54
14 Reproducibility and Replicability	57
15 Parachute and Helicopter Research	61
16 Patents	63
17 Quality of Academic Writing and Gobbledegook	65
18 Metrics and Assessment of Academia and Research	67
19 Waste in Academia and Research	70
20 General	72

# 1 Introduction

The idea of this series was initiated as a project for writing a book about the dark sides of modern science in which I present my personal experience as well as the knowledge I gathered from reading the specialized and general literature of science during the last twenty years of my life as a postgraduate student, researcher, reviewer, author and scientist. However, on inspecting the general literature about this subject I noticed that almost all my experiences and knowledge in this regard are well investigated and documented by other scholars who, mostly, are specialized in these subjects. Therefore, I concluded that it is more useful and less labor-intensive to convert this project to an essentially bibliographic work where I provide lists of academic references (as well as general online articles which are mostly written by academics and experts in this field) that present and highlight the issues and experiences that I want to present and document. The objective of this is that on inspecting the references (as depicted by their titles, possibly with accessing and reading their abstracts) and skim reading the online articles of any titled section, the inspector gets a good idea about the nature and gravity of the problematic issues of the titled subject.

Before starting our investigation it is useful to be aware of the following remarks:

1. “Science” in the title and text of this paper should include all the entities and aspects related to knowledge, knowledge production and authoring.<sup>[1]</sup> So, it should include for instance academics and researchers (whether individuals or groups), academic and research institutions (such as universities and research centers), scholarly publishing outlets (such as scholarly journals, publishing houses and university presses), conferences and similar venues related to academic and research activities, research funding bodies (whether private or public), quality of produced knowledge, morality of produced knowledge, and so on.
2. As indicated already, the present article is of bibliographic nature. It is intended to be an initial reference to those who are interested in investigating the dark sides of modern science<sup>[2]</sup> as well as an educational document to raise awareness among the general public and scholars of the downsides of modern science.
3. The references (as well as the URL addresses or links to the online articles) are hyper-linked to facilitate the access to these references and articles with minimal effort.

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<sup>[1]</sup> This should also apply to the upcoming subjects of this series such as publishing, credit attribution and morality.

<sup>[2]</sup> In fact, this investigation can be seen as a structured and focused literature review where researchers in this field can benefit from this investigation as a starting point.

4. In each section, references (i.e. journal articles, books, book chapters and conference proceedings) are listed first followed by online articles (where the latter occasionally include videos and podcasts).
5. Most of the titled sections in this article have too many references and online articles to be cited all, and hence what we included is a sample that in our view represents the titled subject fairly and balancedly and hence provide sufficient materials for understanding the concerned issues and appreciating their extent and gravity. Anyway, it is important to consider inspecting the references of the cited references and articles since they provide many more references and articles that can be used for further and detailed research and investigation.
6. The references are cited with only authors, title, year of publication and Digital Object Identifier (DOI).<sup>[3]</sup> This is to reduce the amount of work required (noting that we provide hyperlinked DOI from which it is easy to get other bibliographic information immediately if needed).
7. All the cited online materials are accessed during the preparation and writing of this paper (i.e. July 2025).
8. References are ordered chronologically while online articles and items are not.
9. Online articles and items (as well as some research and review papers) are included for the purpose of providing general background knowledge and hence the materials and claims of these articles and items should be treated with care and caution (e.g. fact and credibility checks should be applied to verify the sources and contents).
10. Chronological inspection of the cited papers and articles reveals that most of the downsides of modern science related to knowledge production and authoring have emerged or aggravated in the last two or three decades (which may imply that science is recently moving in the wrong direction).

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<sup>[3]</sup> Other identifiers or URLs are provided when DOI is missing. For books, we use ISBN instead of DOI.

## 2 Paper Mills

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73. Paper Mills: What is this about?.

74. [Paper mills pose threat to scientific scholarship.](#)
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77. [Paper mill hits RSC journals.](#)
78. [Paper mills: the 'cartel-like' companies behind fraudulent scientific journals.](#)
79. [A Paper Mill Target Reflects.](#)
80. [Tackling the paper mill proliferation.](#)
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85. [The threat of paper mills.](#)
86. [Systematic manipulation of the publishing process via 'paper mills'.](#)
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91. [The Iranian Plant Paper Mill.](#)
92. [The Stock Photo Paper Mill.](#)
93. [Trouble at paper mill.](#)
94. [The Chinese Paper Mill Industry: Interview with Smut Clyde and Tiger BB8.](#)
95. [Modern Science Has a Publish-or-Perish Problem.](#)
96. [Correcting the record: retracting papermill articles.](#)
97. [Wiley's 'fake science' scandal is just the latest chapter in a broader crisis of trust universities must address.](#)
98. [Wiley shuts 19 scholarly journals amid AI paper mill problems.](#)
99. [Wiley Launches Paper Mill Detection Tool after Losing Millions Due to Fraudulent Journal Submissions.](#)
100. [Nineteen journals shut down by Wiley following delisting and paper mill problems.](#)
101. [Plagiarism, Paper Mills, and Profit: These Scientists Are Fighting the Epidemic of Fraudulent Research.](#)
102. [Tackling publication manipulation at scale: Hindawi's journey and lessons for academic](#)

[publishing.](#)

103. [Hindawi reveals process for retracting more than 8,000 paper mill articles.](#)
104. [Hindawi's mass retraction of "Special Issues" papers.](#)
105. [Hindawi shuttering four journals overrun by paper mills.](#)
106. [A Tale of Two Publishing Models: The Impact of Paper Mills and the Guest Editor Model.](#)
107. [The Hindawi Files. Part 1: The Timeline.](#)
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110. [Publisher shuts 19 journals amid AI paper mill problems.](#)
111. [Publisher shuts 19 journals amid AI paper mill problems.](#)
112. [Reading the Leaves of Publishing Speed: The Cases of Hindawi, Frontiers, and PLOS.](#)
113. [Wiley and Hindawi to retract 1,200 more papers for compromised peer review.](#)
114. [Hindawi Garbage Sorting System, Based on Citations.](#)
115. [More is not better: the developing crisis of scientific publishing.](#)
116. [News Feature: Predatory Journals and Paper Mills.](#)
117. [Fake peer review and paid authorship in Educational Technology research.](#)
118. [Fake Science: Where is academic integrity heading?.](#)
119. [Dealing with the perils of "paper mills": How the Bioengineered journal fights fake science.](#)
120. [Academic Misconduct in Research: Fabrication/Falsification/Plagiarism/Paper Mills.](#)
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### 3 Contract Cheating and Essay Mills

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## 6 Self-Plagiarism and Text Recycling

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